

Use of Indigenous knowledge in seasonal weather forecasting in semi-arid central Tanzania

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Abstract

This article is based on part of findings of a PhD study that was carried out to determine how farmers have used indigenous knowledge (IK) to adapt to climate change and variability in the semi-arid region of central Tanzania. Two villages, Maluga and Chibelela, were used as the case studies. The study applied Rogers' Diffusion of Innovations theory and model. The study which predominantly adopted a qualitative approach used a post-positivist paradigm. The study population was made up of farmers, agricultural extension officers and the Climate Change Adaptation in Africa project manager. The principal data collection methods were interviews and focus group discussions. The qualitative data collected were subjected to content analysis whereas quantitative data were analysed with the help of SPSS to generate descriptive statistics.

The findings revealed that the farmers in the two villages under study perceived conventional information on weather as unreliable and untimely. Consequently, the farmers turned to IK to predict weather patterns and make the necessary farming adjustments. It was established that uncertainty about seasonal weather forecasts was one of the most critical factors which forced farmers to continue using IK. Moreover, farmers' knowledge of birds, insects, plants, animals, wind direction and astronomical indicators was used to predict weather patterns. The recommendations include the provision of timely and accurate weather forecast information to the farmers to enhance their coping and adaptation strategies under varying climate conditions; and a clear policy framework on the dissemination of information related to weather patterns in rural Tanzania.

Keywords

Seasonal weather forecasting, climate variability, indigenous knowledge, climate change, semi-arid regions, Tanzania.